```
=> file caplus
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY     SESSION
FULL ESTIMATED COST                                         4.76      211.27

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)              SINCE FILE      TOTAL
                                                           ENTRY     SESSION
CA SUBSCRIBER PRICE                                         0.00       -0.69

FILE 'CAPLUS' ENTERED AT 16:23:30 ON 12 MAR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)
```



```
FILE COVERS 1907 - 12 Mar 2004  VOL 140 ISS 12
FILE LAST UPDATED: 11 Mar 2004  (20040311/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> file wpix
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY     SESSION
FULL ESTIMATED COST                                         0.44      211.71

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)              SINCE FILE      TOTAL
                                                           ENTRY     SESSION
CA SUBSCRIBER PRICE                                         0.00       -0.69

FILE 'WPIX' ENTERED AT 16:23:33 ON 12 MAR 2004
COPYRIGHT (C) 2004 THOMSON DERWENT

FILE LAST UPDATED:          10 MAR 2004       <20040310/UP>
MOST RECENT DERWENT UPDATE:     200417         <200417/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE


>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
    PLEASE VISIT:
 http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<


KOROMA  EIC1700
```

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
http://thomsonderwent.com/coverage/latestupdates/ <<<

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER GUIDES, PLEASE VISIT:
http://thomsonderwent.com/support/userguides/ <<<

>>> ADDITIONAL POLYMER INDEXING CODES WILL BE IMPLEMENTED FROM DERWENT UPDATE 200403.
THE TIME RANGE CODE WILL ALSO CHANGE FROM 018 TO 2004.
SDIS USING THE TIME RANGE CODE WILL NEED TO BE UPDATED.
FOR FURTHER DETAILS: http://thomsonderwent.com/chem/polymers/ <<<

=> file jicst

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	1.92	213.63

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.69

FILE 'JICST-EPLUS' ENTERED AT 16:23:38 ON 12 MAR 2004
COPYRIGHT (C) 2004 Japan Science and Technology Agency (JST)

FILE COVERS 1985 TO 8 MAR 2004 (20040308/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED TERM (/CT) THESAURUS RELOAD.

=> file japio

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.51	214.14

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.69

FILE 'JAPIO' ENTERED AT 16:23:43 ON 12 MAR 2004
COPYRIGHT (C) 2004 Japanese Patent Office (JPO)- JAPIO

FILE LAST UPDATED: 1 MAR 2004 <20040301/UP>
FILE COVERS APR 1973 TO OCTOBER 31, 2003

<<< GRAPHIC IMAGES AVAILABLE >>>

=> d que
L10 30532 SEA FILE=CAPLUS ABB=ON PLU=ON RARE EARTH(3A)ELEMENT
L11 255401 SEA FILE=CAPLUS ABB=ON PLU=ON SCANDIUM OR YTTRIUM OR

```
                LANTHANIDES OR BASTNASITE OR MONAZITE OR LOPARITE OR CERIUM OR
                THULIUM OR LUTETIUM
L12       273649 SEA FILE=CAPLUS ABB=ON  PLU=ON  L10 OR L11
L13       291339 SEA FILE=CAPLUS ABB=ON  PLU=ON  BARIUM OR BA
L14      1069233 SEA FILE=CAPLUS ABB=ON  PLU=ON  COPPER OR CU
L16            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "TRIFLUOROACETIC ACID"/CN
L17         7221 SEA FILE=CAPLUS ABB=ON  PLU=ON  L16
L19            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "PENTAFLUOROPROPIONIC
                ACID"/CN
L20          288 SEA FILE=CAPLUS ABB=ON  PLU=ON  L19
L21          353 SEA FILE=CAPLUS ABB=ON  PLU=ON  PENTAFLUOROPROPIONIC ACID OR
                L20
L23            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  PYRIDINE/CN
L24            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  ACETYLACETONE/CN
L26        12873 SEA FILE=CAPLUS ABB=ON  PLU=ON  L24
L27            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  CALCIUM/CN
L28            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  STRONTIUM/CN
L31       203721 SEA FILE=CAPLUS ABB=ON  PLU=ON  L23 OR PYRIDINE
L32        19480 SEA FILE=CAPLUS ABB=ON  PLU=ON  ACETYLACETONE OR L26
L33      1187411 SEA FILE=CAPLUS ABB=ON  PLU=ON  L27 OR CALCIUM OR CA
L34       234451 SEA FILE=CAPLUS ABB=ON  PLU=ON  STRONTIUM OR SR OR L28
L35           29 SEA FILE=CAPLUS ABB=ON  PLU=ON  L12 AND L13 AND L14 AND (L17
                OR L21)
L36           88 SEA FILE=CAPLUS ABB=ON  PLU=ON  L31 AND L32 AND (L33 OR L34)
L37            2 SEA FILE=CAPLUS ABB=ON  PLU=ON  L36 AND L35
L38        58232 SEA FILE=CAPLUS ABB=ON  PLU=ON  L12 AND L13 AND L14
L39           34 SEA FILE=CAPLUS ABB=ON  PLU=ON  L38 AND L31 AND (L33 OR L34)
L44            6 SEA FILE=CAPLUS ABB=ON  PLU=ON  (L37 OR L39) AND SUPERCONDUCTOR
                ?
L45            2 SEA FILE=WPIX ABB=ON  PLU=ON  (L37 OR L39) AND SUPERCONDUCTOR?

L46            1 SEA FILE=JICST-EPLUS ABB=ON  PLU=ON  (L37 OR L39) AND SUPERCOND
                UCTOR?
L49            7 DUP REM L44 L45 L46 (2 DUPLICATES REMOVED)


=> d ti 1-7
YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS, WPIX' - CONTINUE? (Y)/N:y



L49  ANSWER 1 OF 7  CAPLUS  COPYRIGHT 2004 ACS on STN  DUPLICATE 1
TI   Rare earth-Ba-Cu salt complexes with organic ligands for
     coating of metal substrates and calcining to form YBa2Cu3O7-type
     superconductor deposit

L49  ANSWER 2 OF 7  WPIX  COPYRIGHT 2004 THOMSON DERWENT on STN
TI   Solution composition for rare earth superconductor film
     production, is homogeneous solution of metal complex having metal ion
     coordinated to pyridine, trifluoroacetic acid or pentafluoro
     propionic acid.
```

L49 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
TI Compositionally different polymer-based sensor elements and methods for preparing same

L49 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
TI Preparation of epitaxial YbBa2Cu3O7-δ on SiTiO3 single-crystal substrates using a solution process

L49 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
TI Molecular design of sol-gel derived ceramic **superconductors**

L49 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of high-temperature-**superconductor** ceramic bodies

L49 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
TI Manufacture of oxide **superconductor**

=> d all 1-7 l49
YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS, WPIX' - CONTINUE? (Y)/N:y

L49 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 2002:754854 CAPLUS
DN 137:271749
ED Entered STN: 04 Oct 2002
TI Rare earth-**Ba**-**Cu** salt complexes with organic ligands for coating of metal substrates and calcining to form YBa2Cu3O7-type **superconductor** deposit
IN Manabe, Takaaki; Yamaguchi, Iwao; Tsuchiya, Tetsuo; Kumagai, Toshiya; Mizuta, Susumu; Nakamura, Susumu
PA National Institute of Advanced Industrial Science and Technology, Japan
SO U.S. Pat. Appl. Publ., 6 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM H01B001-00
ICS H01F001-00
NCL 252500000
CC 76-4 (Electric Phenomena)
Section cross-reference(s): 57
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002139960	A1	20021003	US 2002-86377	20020304
	JP 2002284525	A2	20021003	JP 2001-90925	20010327
PRAI	JP 2001-90925	A	20010327		

AB The slurry for forming the YBa2Cu3O7 **superconductor** deposit contains rare-earth metal, **Ba**, and **Cu** salt complexes with the ligands of trifluoroacetic acid (or **pentafluoropropionic acid**), **pyridine**, and **acetylacetone**. The

starting mixture optionally contains minor **Ca** and/or **Sr**. The typical mixture contains acetylacetonates of the rare-earth metal, **Ba**, and **Cu** in solution containing **pyridine** and trifluoroacetic acid (or **pentafluoropropionic acid**), with the metal stoichiometry corresponding to that in the oxide product. The superconductive layer is obtained by applying the organic solution of the metal complex composition on a substrate, followed by heating the coating at 200-500° and calcining at 700-1150° in steam-containing atmospheric The thickness of calcined oxide coating can be increased by multiple applications of the slurry followed by calcination, reaching nominally 1.5 μm in 8 stages. The calcined SmBa2Cu3O7 coating with epitaxial growth showed the supercond. with critical temperature of 85 K.

ST rare earth **barium** cuprite coating elec supercond; org ligand metal complex calcined cuprate **superconductor**

IT Cuprates, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(coating, complexes for; metal-salt complexes with organic ligands for coating of metal substrates and calcining to form YBa2Cu3O7-type **superconductors**)

IT **Superconductors**
(cuprate, complexes for; metal-salt complexes with organic ligands for coating of metal substrates and calcining to form YBa2Cu3O7-type **superconductors**)

IT Rare earth compounds
RL: MOA (Modifier or additive use); USES (Uses)
(cuprates with, for **superconductors**; metal-salt complexes with organic ligands for coating of metal substrates and calcining to form YBa2Cu3O7-type **superconductors**)

IT **76-05-1**, Trifluoroacetic acid, uses **110-86-1**, **Pyridine**, uses **422-64-0**, **Pentafluoropropionic acid**
RL: MOA (Modifier or additive use); USES (Uses)
(coating mixture containing, for **superconductors**; metal-salt complexes with organic ligands for coating of metal substrates and calcining to form YBa2Cu3O7-type **superconductors**)

IT 17272-66-1D, Acetylacetonate, complexes with
RL: MOA (Modifier or additive use); USES (Uses)
(coating mixture containing; metal-salt complexes with organic ligands for coating of metal substrates and calcining to form YBa2Cu3O7-type **superconductors**)

IT 109064-29-1, **Barium copper yttrium** oxide (Ba2Cu3YO7)
RL: TEM (Technical or engineered material use); USES (Uses)
(coating with, for **superconductors**; metal-salt complexes with organic ligands for coating of metal substrates and calcining to form YBa2Cu3O7-type **superconductors**)

IT 7440-19-9D, Samarium, salts **7440-24-6D**, **Strontium**, salts 7440-39-3D, **Barium**, salts 7440-50-8D, **Copper**, salts 7440-64-4D, Ytterbium, salts 7440-65-5D, **Yttrium**, salts **7440-70-2D**, **Calcium**, salts
RL: MOA (Modifier or additive use); USES (Uses)
(complexing mixture containing, for **superconductors**; metal-salt

complexes with organic ligands for coating of metal substrates and calcining to form YBa2Cu3O7-type **superconductors**)

IT 1309-48-4, Magnesia, uses 1313-99-1, Nickel oxide (NiO), uses 1314-23-4, Zirconia, uses 7440-02-0, Nickel, uses 7440-22-4, Silver, uses 12003-65-5, Lanthanum aluminate 12060-59-2, **Strontium** titanate
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate, **superconductor** coating on; metal-salt complexes with organic ligands for coating of substrates and calcining to form YBa2Cu3O7-type **superconductors**)

L49 ANSWER 2 OF 7 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2003-170479 [17] WPIX
DNN N2003-134766 DNC C2003-044581
TI Solution composition for rare earth **superconductor** film production, is homogeneous solution of metal complex having metal ion coordinated to **pyridine**, trifluoroacetic acid or pentafluoro propionic acid.
DC E12 L03 U14 X12
PA (DOKU-N) DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO
CYC 1
PI JP 2002284526 A 20021003 (200317)* 8p C01G003-00
ADT JP 2002284526 A JP 2001-90989 20010327
PRAI JP 2001-90989 20010327
IC ICM C01G003-00
ICS C01G001-00; C07C053-18; C07C053-21; H01B013-00
ICA C07D213-06; C07F001-08; C07F003-00; C07F005-00
AB JP2002284526 A UPAB: 20030312
NOVELTY - A solution composition is a homogeneous solution of a metal complex dissolved in a solvent. The metal complex has ligands chosen from trifluoro acetic acid group, penta fluoro propionic acid group and/or **pyridine** group coordinated to metal ion of the metal seed containing **rare earth elements**, **barium** and **copper**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) Amorphous solid substance of a metal complex obtained by volatilizing excess solvent from the solution composition;

(2) Manufacture of metal-complex solution which involves dissolving the amorphous substance of the metal complex in a solvent and forming a homogeneous solution; and

(3) Formation of **superconductor** film which involves coating the solution composition on a substrate, heat-processing coating at 200-500 deg. C and baking the coated film at 700-1000 deg. C.

USE - For rare earth **superconductor** film production (claimed).

ADVANTAGE - The solution composition provides a neutral and a uniform coating film. A favorable **superconductor** film is formed easily. Since the coating-baking process is performed repeatedly, the thickness of the film is controlled effectively and a thick-film is formed easily. The dissolution of the metal complex in an organic solvent improves the stability of the homogeneous solution.

Dwg.0/0
FS CPI EPI
FA AB; DCN
MC CPI: E07-D04C; E10-C04F; E10-C04L1; E34-D03; E34-E; L03-A01C
EPI: U14-F01A1; U14-F01A5; X12-D06B1A

L49 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:42616 CAPLUS
DN 130:104511
ED Entered STN: 21 Jan 1999
TI Compositionally different polymer-based sensor elements and methods for preparing same
IN Lewis, Nathan S.; Grubbs, Robert H.; Doleman, Brett; Sanner, Robert; Severin, Erik
PA California Institute of Technology, USA
SO PCT Int. Appl., 113 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N027-12
CC 80-2 (Organic Analytical Chemistry)
Section cross-reference(s): 38, 59
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9900663	A1	19990107	WO 1998-US13486	19980629
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9881755	A1	19990119	AU 1998-81755	19980629
	AU 741702	B2	20011206		
	EP 993605	A1	20000419	EP 1998-931709	19980629
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6290911	B1	20010918	US 1998-106791	19980629
	JP 2002508064	T2	20020312	JP 1999-505849	19980629
PRAI	US 1997-51203P	P	19970630		
	WO 1998-US13486	W	19980629		

AB The present invention provides a combinatorial approach for preparing arrays of chemical sensitive polymer-based sensors which are capable of detecting the presence of a chemical analyte in a fluid in contact therewith. The described methods and devices comprise combining varying ratios of at least 1st and 2nd organic materials which, when combined, form a polymer or polymer blend that is capable of absorbing a chemical analyte, thereby providing a detectable response. The detectable response of the sensors prepared by this method is not linearly related to the mole fraction of at least one of the polymer-based components of the sensors, thereby making arrays of these sensors useful for a variety of sensing tasks.

ST polymer compn gas sensor

IT Electric conductors
Electronic device fabrication
Interpenetrating polymer networks
Superconductors
(analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Acrylic polymers, uses
Carbohydrates, uses
Poly(arylenealkenylenes)
Poly(arylenealkylenes)
Polyacetylenes, uses
Polyamides, uses
Polyanhydrides
Polyanilines
Polybenzimidazoles
Polybenzothiazoles
Polybenzoxazoles
Polycarbonates, uses
Polycyanurates
Polyesters, uses
Polymer blends
Polyolefins
Polyoxadiazoles
Polyoxymethylenes, uses
Polyphosphazenes
Polyquinoxalines
Polysilanes
Polysiloxanes, uses
Polysulfides
Polysulfonamides
Polysulfones, uses
Polyureas
Polyurethanes, uses
Polyvinyl acetals
Silazanes
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Alloys, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Carbon black, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Carbonaceous materials (technological products)
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST

(Analytical study); USES (Uses)
(analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Charge transfer complexes
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Coke
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Metals, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Oxides (inorganic), analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Resistors
(chemiresistors; analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Semiconductor materials
(doped; analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Gas sensors
(electrochem.; analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Vinyl compounds, uses
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(ester group-containing, polymers; analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Vinyl compounds, uses
Vinyl compounds, uses
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(halo, polymers; analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Air analysis
Composites
Electric resistance
(methanol determination in air by sensor array based on polymer combinatorial library)

IT Volatile organic compounds
RL: ANT (Analyte); ANST (Analytical study)
(organic vapors determination in air by sensor array based on polymer

combinatorial library)

IT Nitriles, uses
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(polymers, vinyl; analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Alkadienes
Carboranes
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(polymers; analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Polymers, uses
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(polysulfonates; analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Macrocyclic compounds
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(stacked complexes; analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Polyesters, uses
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(thio-; analyte detection in fluid by sensor array based on polymer combinatorial library)

IT Ethers, uses
Ethers, uses
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(vinyl, polymers; analyte detection in fluid by sensor array based on polymer combinatorial library)

IT 9003-20-7, Polyvinyl acetate 9003-53-6D, Poly(styrene), derivs. 9010-39-3D, Poly(triazole), derivs. 9011-14-7, Polymethylmethacrylate 25013-01-8D, Poly(**pyridine**), derivs. 25233-34-5D, Polythiophene, derivs. 25931-07-1D, derivs. 30604-81-0D, Polypyrrole, derivs. 31977-51-2D, Poly(piperazine), derivs. 82451-55-6D, Poly(indole), derivs. 89014-29-9D, derivs. 89014-30-2D, Poly(piperidine), derivs. 95109-07-2D, Poly(pyridazine), derivs. 102250-99-7D, Poly(dibenzofuran), derivs. 105809-46-9D, Poly(pyrazole), derivs. 111546-00-0D, derivs. 219320-44-2D, derivs. 219320-45-3
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(analyte detection in fluid by sensor array based on polymer combinatorial library)

IT 1303-00-0, Gallium arsenide (GaAs), analysis 1312-43-2, Indium oxide (In2O3) 1317-33-5, Molybdenum sulfide (MoS2), analysis 1518-16-7D, Tetracyanoquinodimethane, alkali metal complexes 2876-98-4 7439-88-5D, Iridium, halocarbonyl complexes, analysis 7440-06-4, Platinum, analysis 7440-21-3, Silicon, analysis 7440-22-4, Silver, analysis 7440-50-8, **Copper**, analysis 7440-57-5, Gold, analysis 7782-42-5,

Graphite, analysis 11109-26-5 13463-67-7, Titanium oxide (TiO2), analysis 15004-88-3D, Tetracyanoplatinate(2-), complexes 18282-10-5, Tin oxide (SnO2) 22398-80-7, Indium phosphide (InP), analysis 31366-25-3D, halide complexes 50958-14-0, Platinum sodium oxide 99685-96-8, Fullerene-60 109064-29-1, **Barium copper yttrium** oxide (Ba2Cu3YO7) 125270-74-8, **Barium calcium copper** titanium oxide (Ba2Ca2Cu3Ti2O10)
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(analyte detection in fluid by sensor array based on polymer combinatorial library)

IT 67-56-1, Methanol, analysis
RL: ANT (Analyte); ANST (Analytical study)
(methanol determination in air by sensor array based on polymer combinatorial library)

IT 64-17-5, Ethanol, analysis 67-64-1, Acetone, analysis 75-05-8, Acetonitrile, analysis 141-78-6, Acetic acid ethyl ester, analysis
RL: ANT (Analyte); ANST (Analytical study)
(organic vapors determination in air by sensor array based on polymer combinatorial library)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Commissariat Energie Atomique; EP 0161987 A 1985 CAPLUS
(2) Commissariat Energie Atomique; EP 0251934 A 1988 CAPLUS
(3) Draegerwerk Ag; DE 4241438 A 1994 CAPLUS
(4) Inst Chemo Biosensorik; DE 19509518 A 1996 CAPLUS
(5) Lonergan, M; Chem Mater 1996, V8, P2298 CAPLUS
(6) Lonergan, M; IEEE Aerospace Conference Procedings (CAT N 97CH36020) 1997, V3, P583
(7) Mastiff Electronic Systems Ltd; WO 9607901 A 1996 CAPLUS
(8) Miller, L; US 5417100 A 1995 CAPLUS
(9) Murata Manufacturing Co; DE 3305683 A 1984
(10) Stetter, J; US 5512882 A 1996 CAPLUS

L49 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN 1999:457853 CAPLUS
DN 131:152372
ED Entered STN: 27 Jul 1999
TI Preparation of epitaxial YbBa2Cu3O7-δ on SiTiO3 single-crystal substrates using a solution process
AU Matsubara, Ichiro; Paranthaman, Mariappan; Chirayil, Thomas G.; Sun, Ellen Y.; Martin, Patrick M.; Kroeger, Donald M.; Verebelyi, Darren T.; Christen, David K.
CS Chemical and Analytical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, 37831-6100, USA
SO Japanese Journal of Applied Physics, Part 2: Letters (1999), 38(7A), L727-L730
CODEN: JAPLD8; ISSN: 0021-4922
PB Japanese Journal of Applied Physics
DT Journal
LA English

CC 76-4 (Electric Phenomena)

AB The authors have prepared $YbBa_2Cu_3O_{7-\delta}$ (Yb-123) epitaxial films on $SrTiO_3$ (100) single crystal substrates by a metalorg. decomposition (MOD) method. The precursor solution was prepared by dissolving ytterbium acetylacetonate, **barium** neodecanoate, and **copper** (II) 2-ethylhexanoate in a mixture of solvents containing toluene/**pyridine** /propionic acid. The precursor solns. were spin-coated on the substrates and fired at 730-770° in 100-ppm oxygen atmospheres followed by 1 atm O_2 annealing. X-ray diffraction results from the theta-2theta, phi, and omega scans for the films revealed a (100) cubic texture. FWHM values for Yb-123 (103) and Yb-123 (005) were 1.5° (in-plane epitaxy, $\Delta\phi$) and 0.73° (out-of-plane epitaxy, $\Delta\omega$), resp. The highest Tc obtained for Yb-123 films was 87.2 K. The measured transport Jc was 6.4 + 105 A/cm2 at 77 K and self-field.

ST **yttrium barium** cuprate **superconductor** chem deposition; MOCVD epitaxy **yttrium barium** cuprate **superconductor**

IT Coating process
(electroless, metalorg; preparation of epitaxial $YbBa_2Cu_3O_{7-\delta}$ on $SiTiO_3$ single-crystal substrates using solution process)

IT Epitaxy
(preparation of epitaxial $YbBa_2Cu_3O_{7-\delta}$ on $SiTiO_3$ single-crystal substrates using solution process)

IT 109064-29-1D, **Barium copper yttrium** oxide ($Ba_2Cu_3YO_7$), oxygen-deficient
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(preparation of epitaxial $YbBa_2Cu_3O_{7-\delta}$ on $SiTiO_3$ single-crystal substrates using solution process)

IT 12060-59-2, **Strontium** titanate
RL: NUU (Other use, unclassified); USES (Uses)
(preparation of epitaxial $YbBa_2Cu_3O_{7-\delta}$ on $SiTiO_3$ single-crystal substrates using solution process)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Beach, D; Mater Res Soc Sym Proc 1998, V495, P263 CAPLUS
(2) Feenstra, R; to be published in Science
(3) Goyal, A; Appl Phys Lett 1996, V69, P1795 CAPLUS
(4) Konczykowski, M; Phys Rev B 1991, V44, P7167 CAPLUS
(5) Kumagai, T; Jpn J Appl Phys 1990, V29, PL940 CAPLUS
(6) Manabe, T; Jpn J Appl Phys 1991, V30, PL1000 CAPLUS
(7) Manabe, T; Physica C 1998, V303, P53 CAPLUS
(8) Matsubara, I; to be published in Physica C
(9) Norton, D; Science 1996, V274, P755 CAPLUS
(10) Paranthaman, M; Mater Res Bull 1997, V32, P1697 CAPLUS
(11) Paranthaman, M; to be published in Proc 9th CIMTEC-World Ceramics Congress Florence Italy 1998
(12) Paranthaman, M; to be published in Proc 9th CIMTEC-World Ceramics Congress Florence Italy 1998
(13) Shibata, J; Jpn J Appl Phys 1998, V37, PL1141 CAPLUS
(14) Shoup, S; J Mater Res 1997, V12, P1017 CAPLUS
(15) Yamagiwa, K; Physica C 1998, V304, P12 CAPLUS
(16) Yamagiwa, K; Physica C 1998, V309, P231 CAPLUS

L49 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:223593 CAPLUS
DN 118:223593
ED Entered STN: 29 May 1993
TI Molecular design of sol-gel derived ceramic **superconductors**
AU Kordas, G.; Teepe, M. R.; Moon, B. M.; Kenzer, D. S.
CS Inst. Mater. Sci., Natl. Cent. Sci. Res. "Demokritos", Attikis, Greece
SO European Materials Research Society Monographs (1992), 5(EUROGEL '91), 219-26
CODEN: EMRMEH; ISSN: 0927-5010
DT Journal
LA English
CC 76-4 (Electric Phenomena)
AB Y methoxyethoxide, **barium** methoxyethoxide and various **copper**(II) alkoxide groups were used as precursors for the formation of YBa2Cu3O7-δ stable sols in a 2-methoxyethanol/methyl Et ketone/toluene/diisopropyl ketone solvent system. Sol fractal dimensions were varied with the sol concentration and with the addition of **pyridine**. A strong correlation was found between the wettability and the fractal dimensions of the various precursors as determined by contact angle measurements. Tl2CaBa2Cu2O8+x and Tl2Ca2Ba2Cu3O10+x **superconductors** were produced using a modified alkoxide sol-gel technique. Thallium butoxide, **Ca**- and **Ba** -methoxyethoxide, and **Cu**(II) ethoxide were used as precursors. Complete solubility of the **Cu** component was accomplished by using the additive 2-dimethylethanolamine in a solvent system of 1-butanol, 2-methoxyethanol, Me Et ketone, and toluene. Samples were produced by heating the sols under vacuum, prefiring the resulting gels to 525°, pelletizing, and firing at 885° in closed containers. Tc(Zero) values for these phases were 105 and 115 K with increases in these transitions occurring with firing times. Microstructural anal. revealed that a large degree of directional plate-like crystal growth occurred on the surface of the pellets.
ST cuprate **superconductor** sol gel process; **yttrium** **barium** cuprate sol gel process; thallium **calcium** **barium** cuprate sol gel
IT **Superconductors**
(cuprate, mol. design of sol-gel derived ceramic)
IT 28099-67-4, **Calcium** methoxyethoxide 60100-14-3 115503-13-4, **Barium** methoxyethoxide 115668-57-0
RL: PRP (Properties)
(cuprate **superconductors** from, by sol gel process)
IT 109064-29-1D, **Barium copper yttrium** oxide (Ba2Cu3YO7), oxygen-deficient 115833-27-7D, **Barium** **calcium copper** thallium oxide (Ba2CaCu2Tl2O8), oxygen-excess 115866-07-4, **Barium calcium** **copper** thallium oxide (Ba2Ca2Cu3Tl2O10)
RL: PRP (Properties)
(mol. design of sol-gel derived superconductive ceramic)
IT 1184-54-9, **Copper** methoxide 2850-65-9, **Copper** ethoxide 23578-23-6 78469-41-7 107027-86-1

RL: TEM (Technical or engineered material use); USES (Uses)
(**superconductor** ceramics from, by sol gel process)

L49 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:524828 CAPLUS
DN 113:124828
ED Entered STN: 29 Sep 1990
TI Preparation of high-temperature-**superconductor** ceramic bodies
IN Mizuta, Susumu; Kumagai, Toshiya; Odan, Kyoji; Miura, Hiroshi; Bando, Yasuo
PA Agency of Industrial Sciences and Technology, Japan; Ube Industries, Ltd.
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C04B035-00
ICS H01B012-00; D06M011-00; D06M015-00
CC 76-4 (Electric Phenomena)
Section cross-reference(s): 57
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01298057	A2	19891201	JP 1988-129588	19880526
	JP 07064626	B4	19950712		
PRAI	JP 1988-129588		19880526		

AB In the process, a green or sintered body of a high-temperature-**superconductor** ceramic is impregnated with a solution containing metal oxides corresponding to the composition of the ceramic, and sintered. The **superconductor** ceramic body has large critical c.d.
ST high temp **superconductor** ceramic body
IT **Superconductors**
(ceramic bodies from, preparation of high-temperature)
IT Naphthenic acids, compounds
RL: PREP (Preparation)
(**barium** salts, impregnation with solns. containing, in preparation of high-temperature **superconductor** ceramic bodies)
IT Naphthenic acids, compounds
RL: PREP (Preparation)
(bismuth salts, impregnation with solns. containing, in preparation of high-temperature **superconductor** ceramic bodies)
IT Naphthenic acids, compounds
RL: PREP (Preparation)
(**calcium** salts, impregnation with solns. containing, in preparation of high-temperature **superconductor** ceramic bodies)
IT Naphthenic acids, compounds
RL: PREP (Preparation)
(**copper** salts, impregnation with solns. containing, in preparation of high-temperature **superconductor** ceramic bodies)
IT Naphthenic acids, compounds
RL: PREP (Preparation)
(**strontium** salts, impregnation with solns. containing, in preparation of high-temperature **superconductor** ceramic bodies)

IT Naphthenic acids, compounds
RL: PREP (Preparation)
(**yttrium** salts, impregnation with solns. containing, in preparation of high-temperature **superconductor** ceramic bodies)
IT 71-36-3, 1-Butanol, uses and miscellaneous 79-09-4, Propanoic acid, properties 108-88-3, uses and miscellaneous **110-86-1**, **Pyridine**, uses and miscellaneous 12084-29-6, **Barium** acetylacetonate 13395-16-9 15554-47-9, **Yttrium** acetylacetonate
RL: USES (Uses)
(impregnation with solns. containing, in preparation of high-temperature **superconductor** ceramic bodies)
IT 107539-20-8P, **Barium copper yttrium** oxide
114901-61-0P, Bismuth **calcium copper strontium** oxide
RL: TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**superconductor**, high-temperature, ceramic bodies from, preparation of)

L49 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:29250 CAPLUS
DN 112:29250
ED Entered STN: 21 Jan 1990
TI Manufacture of oxide **superconductor**
IN Fujiki, Michiya; Sukegawa, Takeshi
PA Nippon Telegraph and Telephone Public Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C01G003-00
ICS C04B035-00; H01B013-00; H01L039-12
ICA H01B012-00
CC 76-4 (Electric Phenomena)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63307113	A2	19881214	JP 1987-142904	19870608

PRAI JP 1987-142904 19870608
AB A method for manufacturing a **superconductor** MxMy1CuzOw (M = B, Al, Ga, In, Tl, Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, and/or La; M1 = Be, Mg, **Ca**, **Sr**, **Ba**, Ra, Sm, and/or Pb; x, y, z, w = atomic fraction) involves mixing a solution containing ions of M, M1, and **Cu** with a solution containing a ≥2-coordinating chelating agent and heating the chelates to form a metal oxide. A **superconductor** is prepared at relatively low temperature
ST oxide **superconductor** chelating agent
IT Sulfonium compounds
RL: PREP (Preparation)
(alkyl, oxide **superconductor** preparation from solns. containing)
IT Chelating agents

Hydroxamic acids
Lecithins
RL: PREP (Preparation)
(oxide **superconductor** preparation from solns. containing)

IT **Superconductors**
(oxide, manufacturing of, from solns. containing chelating agents)

IT Sulfonium compounds
RL: PREP (Preparation)
(alkyl, oxide **superconductor** preparation from solns. containing)

IT 65107-46-2P, **Calcium copper** lanthanum oxide
107539-20-8P, **Barium copper yttrium** oxide
109457-22-9P, **Barium copper** dysprosium oxide
109457-23-0P, **Barium copper** erbium oxide
109457-25-2P, **Barium copper lutetium** oxide
109489-92-1P, **Barium copper** holmium oxide
110687-33-7P, **Barium copper** ytterbium oxide
110687-34-8P, **Barium copper thulium** oxide
110687-67-7P, **Barium copper** gadolinium oxide
111420-26-9P, **Barium copper** terbium oxide
116443-13-1P, **Copper strontium yttrium** oxide
119537-63-2P, **Copper scandium strontium** oxide
RL: PREP (Preparation)
(manufacturing of **superconductor** of, from solns. containing chelating agent)

IT 50-81-7, Ascorbic acid, uses and miscellaneous 56-41-7, L-Alanine, uses and miscellaneous 57-55-6, 1,2-Propanediol, uses and miscellaneous 60-00-4, uses and miscellaneous 67-43-6, Diethylene triamine penta acetic acid 77-92-9, uses and miscellaneous 79-40-3, Rubeanic acid 87-69-4, uses and miscellaneous 110-15-6, Butanedioic acid, uses and miscellaneous 110-94-1, Glutaric acid 139-13-9, Nitrilotriacetic acid 141-82-2, Malonic acid, uses and miscellaneous 526-95-4, Gluconic acid 869-52-3, Triethylene tetramine hexaacetic acid 1336-21-6D, Ammonium hydroxide ((NH4)(OH)), alkyl derivs. 6674-22-2 9002-89-5, Poly(vinyl alcohol) 9003-01-4, Poly(acrylic acid) 9003-05-8, Polyacrylamide 9003-39-8, Poly(vinyl pyrrolidone) 9003-53-6D, Polystyrene, imino diacetic acid-substituted 9004-34-6, Cellulose, uses and miscellaneous 25087-26-7, Poly(methacrylic acid) 25322-68-3 57951-36-7, Dimethylamino **pyridine** 68517-44-2, Cetyl methyl cellulose
RL: USES (Uses)
(oxide **superconductor** preparation from solns. containing)

=>